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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/665,703

09/19/2003

Charles Abraham

GLBL-015PID1

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06/28/2006

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EXAMINER

KIM, KEVIN

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/665,703	Applicant(s) ABRAHAM ET AL.	
	Examiner Kevin Y. Kim	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-6, 18 and 19 is/are allowed.
- 6) ☒ Claim(s) 7, 9-11, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 8, 12, 13, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The indicated allowability of claims 7,9-11,14,15 is withdrawn in view of the newly discovered reference(s) to Lin (US 2002/0116125). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 7,9-11,14,15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woo (US 5,808,582 previously cited) in view of Dent (US 6,934,317 previously cited), Fan (US 6,433,726 previously cited) and Lin (US2002/0116125).

Claims 7 and 15.

Woo discloses a satellite signal receiver (GPS receiver, see Fig. 12), comprising:

an RF/IF converter (1202) for receiving a satellite signal and convert it to an IF signal,

an A/D converter (1203) for digitizing the IF signal,

a processor (1204) for performing at least a subset of a convolution between a pseudorandom reference code and the digitized signal. See Abstract.

Woo fails to teach the sampling circuit (1203) to have “either a first sampling spacing or a second sampling spacing” and “a mode selection processor for selecting either said first sampling spacing or said second sampling spacing.” Dent et al teaches that the sampling rate for a received CDMA signal may be one or more samples per chip. Here, which rate

to use would be dependent on a design criteria. See col. 27, lines 23-24. Further, Fan teaches a decimator, i.e., “a subsampling circuit,” coupled to an A/D converter as a means for providing a selected one of different sampling rates. Thus, it would have been obvious to one skilled in the art at the time the invention was made to add a decimator, i.e., “a subsampling circuit,” to the A/D converter of Woo for the purpose of providing a multiple sampling rate capability as taught by Dent in order to select a desired sampling rate/space, and a Doppler shift remover in order to track the correct carrier frequency as taught by Lin.

Claim 9.

For performing correlation between a received signal and a reference code, the received signal is stored in a shift register.

Claims 10.

See the Woo patent, Figs 13-16 showing I and Q channels, i.e., “a plurality of processing channels.”

Claim 11.

See application processor (1205) for a computer for computing the position using the convolution.

Claim 14.

See the correlations (1407) including summers in Fig. 14 for “a processing circuit for integrating results of said convolution.”

Allowable Subject Matter

4. Claims 2-6,18 and 19 are allowed.
5. Claim 8,12,13,16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/s/ */s/*

**KEVIN KIM
PATENT EXAMINER**